E/ECE/324
E/ECE/TRANS/505 } Rev.1/Add.36/Rev.2/Amend.3

1 December 1997

AGREEMENT

CONCERNING THE ADOPTION OF UNIFORM TECHNICAL PRESCRIPTIONS FOR WHEELED VEHICLES, EQUIPMENT AND PARTS WHICH CAN BE FITTED AND/OR BE USED ON WHEELED VEHICLES AND THE CONDITIONS FOR RECIPROCAL RECOGNITION OF APPROVALS GRANTED ON THE BASIS OF THESE PRESCRIPTIONS *

(Revision 2, including the amendments entered into force on 16 October 1995)

Addendum 36: Regulation No. 37

Revision 2 - Amendment 3

Supplement 14 to the 03 series of amendments - Date of entry into force: 3 September 1997

UNIFORM PROVISIONS CONCERNING THE APPROVAL OF FILAMENT LAMPS FOR USE IN APPROVED LAMP UNITS OF POWER-DRIVEN VEHICLES AND OF THEIR TRAILERS

UNITED NATIONS

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* Former title of the Agreement:

Agreement Concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, done at Geneva on 20 March 1958.

GE.97- 24804

List of Contents, annexes, annex 1,

Add at the end of the list new sheets, to read:

"....
Sheets HIR1
Sheets PY27/7W"

Insert a new paragraph 2.3.3., to read:

"2.3.3. Halogen filament lamps */ meeting the requirements of paragraph 3.7. below shall be marked with a "U"."

Paragraph 2.3.3. (former), renumber as paragraph 2.3.4.

Insert a new footnote */ (pertinent to paragraph 2.3.3.), to read:

"*/ Halogen filament lamps are filament lamps whose category designation starts with the letter "H"."

Insert a new paragraph 3.7., to read:

"3.7. The UV radiation of a halogen filament lamp shall be such that:

$$k_1 = \frac{\int_{\lambda=315nm}^{400nm} E_e(\lambda) \cdot d\lambda}{683 \int_{\lambda=380nm}^{780nm} E_e(\lambda) \cdot V(\lambda) \cdot d\lambda} \leq 2 \times 10^{-4} \quad W/lm$$

$$k_2 = \frac{\int_{\lambda=250nm}^{315nm} E_e(\lambda) \cdot d\lambda}{683 \int_{\lambda=380nm}^{780nm} E_e(\lambda) \cdot V(\lambda) \cdot d\lambda} \leq 2 \times 10^{-6} \quad W/lm$$

where:

$E_e(\lambda)$	[W/nm]	is the spectral distribution of the radiant flux;
$V(\lambda)$	[1]	is the spectral luminous efficiency;
λ	[nm]	is the wave length.

This value shall be calculated using intervals of five nanometre."

Paragraphs 3.7. to 3.9. (former), renumber as paragraphs 3.8. to 3.10.

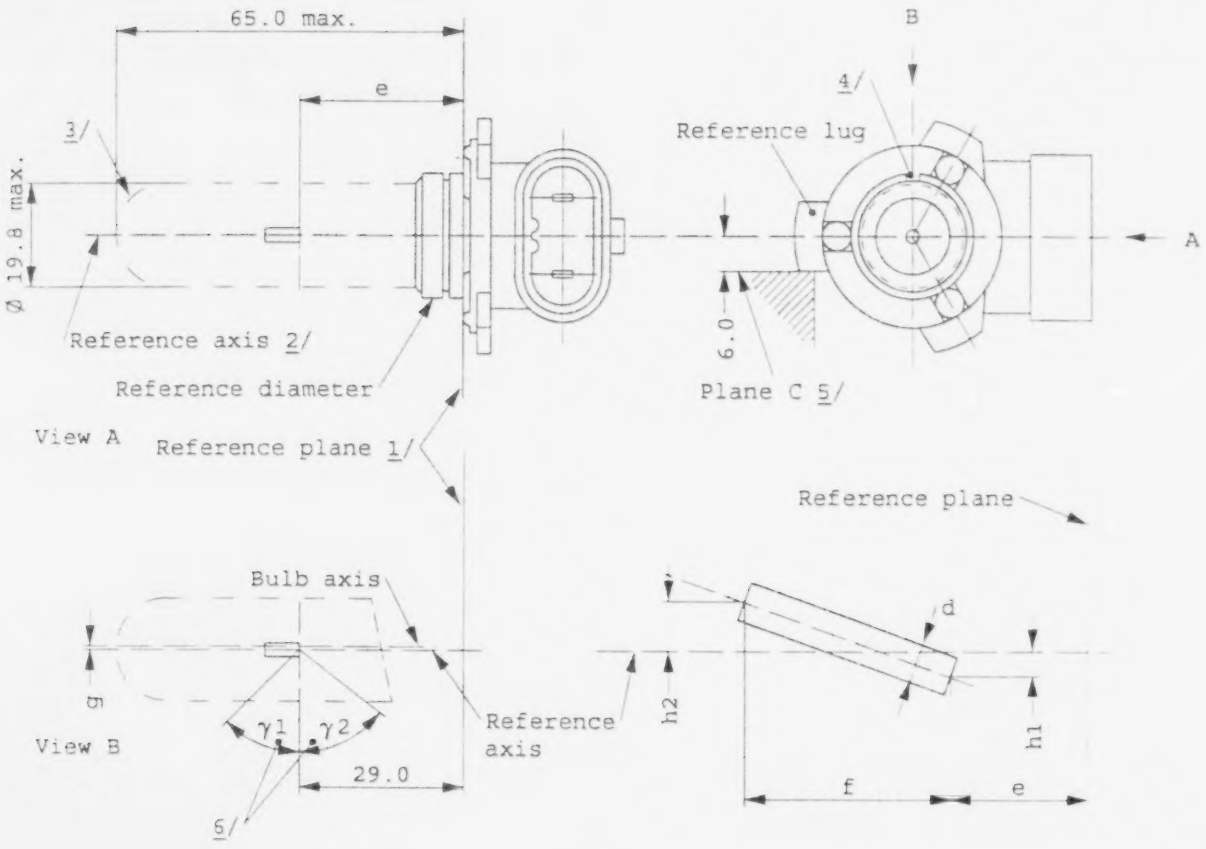
Paragraph 8.1., amend to read:

"8.1. Approvals granted under the preceding series of amendments shall remain valid, except that for conformity of production, current production filament lamps shall comply with the requirements of the latest series of amendments starting 12 months from the date of application of this amendment."

Annex 1, add at the end new Sheets HIR1/1 to HIR1/3 and PY27/7W/1 to PY27/7W/3, to read as follows:

" CATEGORY HIR1 Sheet HIR1/1

The drawings are only to illustrate the essential dimensions of the filament lamp



1/ The reference plane is the plane defined by the three supporting bosses on the cap flange.

2/ The reference axis is perpendicular to the reference plane and passes through the center of the reference diameter of the cap.

3/ Glass bulb and supports shall not exceed the envelope. The envelope is concentric to the reference axis.

4/ The keyway is mandatory.

5/ The filament lamp shall be rotated in the measuring holder until the reference lug contacts plane C of the holder.

6/ Glass bulb periphery shall be optically distortion-free axially within the angles $\gamma 1$ and $\gamma 2$. This requirement applies to the whole bulb circumference within the angles $\gamma 1$ and $\gamma 2$.

CATEGORY HIR1 Sheet HIR1/2

Dimensions in mm 11/			Tolerances	
			Filament lamps of normal production	Standard filament lamp
e	8/ 10/	29	9/	± 0.16
f	8/ 10/	5.1	9/	± 0.16
g	8/	0	+ 0.7 - 0.0	+ 0.4 - 0.0
h1, h2		0	9/	± 0.15 7/
d		1.6 max	-	-
γ_1		50° min.	-	-
γ_2		50° min.	-	-
Cap PX 20d in accordance with IEC Publ. 61 (sheet 7004-...-...)				
ELECTRICAL AND PHOTOMETRIC CHARACTERISTICS				
Rated values		Volts	12	12
		Watts	65	65
Test voltage		Volts	13.2	13.2
Objective values		Watts	73 max.	73 max.
		Luminous flux lm	2500	
		± %	15	
Reference luminous flux for headlamp testing: 1840 lm at approx. 12V				

7/ The eccentricity is measured only in viewing directions A and B as shown in the figure on sheet HIR1/1. The points to be measured are those where the projection of the outside of the end turns nearest to or furthest from the reference plane crosses the filament axis.

8/ The viewing direction is direction B as shown in the figure on sheet HIR1/1.

9/ To be checked by means of a "box-system". Sheet HIR1/3.

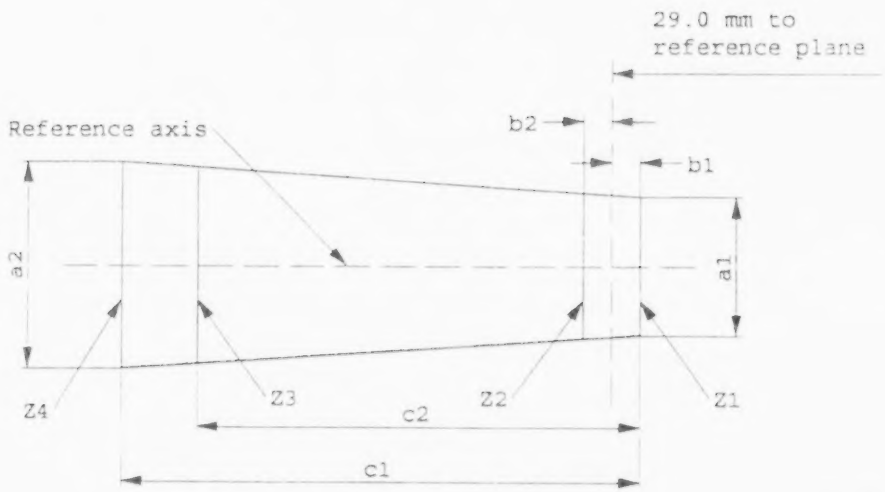
10/ The ends of the filament are defined as the points where, when the viewing direction as defined in note 8/ above, the projection of the outside of the end turns crosses the filament axis.

11/ Dimensions shall be checked with O-ring mounted.

CATEGORY HIR1 Sheet HIR1/3

Screen projection requirements

This test is used to determine, by checking whether the filament is correctly positioned relative to the reference axis and the reference plane, whether a lamp complies with the requirements.



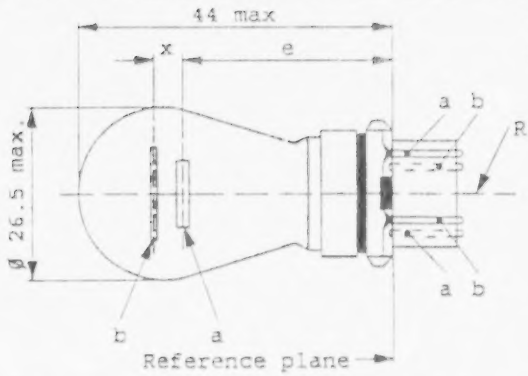
	a1	a2	b1	b2	c1	c2
12 V	d + 0.4	d + 0.8	0.35		6.1	5.2

d = diameter of filament

The filament position is checked solely in directions A and B as shown on sheet HIR1/1.

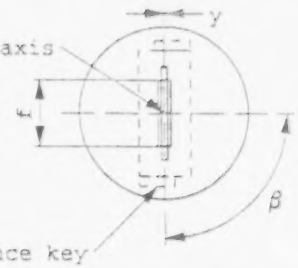
The beginning of the filament as defined on sheet HIR1/2, note 10/ shall lie between lines Z1 and Z2 and between lines Z3 and Z4.

CATEGORY PY27/7W Sheet PY27/7W/1



a=major (high wattage) filament

b=minor (low wattage) filament



DIMENSIONS in mm	Filament lamps of normal production			Standard filament lamp
	min.	nom.	max.	
e		27.9 3/		27.9 ± 0.3
f			9.9	9.9 $^{0}_{-2}$
Lateral deviation 2/			3/	0.0 ± 0.4
x 4/		5.1 3/		5.1 ± 0.5
y 4/		0.0 3/		0.0 ± 0.5
β	75° 3/	90°	105° 3/	90° ± 5°
Cap WX2.5x16q in accordance with IEC Publ. 61 (sheet 7004- -1)				

ELECTRICAL AND PHOTOMETRIC CHARACTERISTICS

Rated values		V	12			12	
		W	27	7		27	7
Test voltage		V	13.5				
Objective values	Watts	W	29.2	7.7		29.2 at 13.5 V	7.7 at 13.5 V
		±%	10			10	
	Luminous flux	lm	280	21			
		±%	15				
Reference luminous flux : Amber bulb: 280 and 21 lm at approx. 13.5 V Clear bulb: 475 and 36 lm							

1/ The reference axis is defined with respect to the reference keys and is perpendicular to the reference plane.

2/ Maximum lateral deviation of major filament centre from two mutually perpendicular planes both containing the reference axis and one containing axis through reference keys.

3/ To be checked by means of a box system, sheets PY27/7W/2 and 3.

4/ "x"and "y" denote the offset of the axis of the minor filament with respect to the axis of the major filament

5/ The bulb of production lamps shall be amber. (See also note 6/).

6/ The bulb of standard filament lamps shall be amber or clear. For amber standard filament lamps, changes of the bulb temperature shall not affect the luminous flux which might impair photometric measurements of signalling devices. Moreover the colour shall be in the lower part of the tolerance area.

CATEGORY PY27/7W Sheet PY27/7W/2

Screen projection requirements

This test is used to determine, by checking whether:

(a) the major filament is correctly positioned relative to the reference axis and reference plane and has an axis perpendicular, within ± 15°, to the plane through the centres of the keys and the reference axis; and whether:
(b) the minor filament is correctly positioned relative to the major filament,
whether a filament lamp complies with the requirements.

Test procedures and requirements

1. The filament lamp is placed in a holder capable of being rotated about its axis and having either a calibrated scale or fixed stops corresponding to the angular displacement tolerance limits. The holder is then so rotated that an end view of the major filament is seen on the screen on to which the image of the filament is projected. The end view of that filament shall be obtained within the angular displacement tolerance limits.

2. Side elevation
The filament lamp placed with the cap down, the reference axis vertical, the reference key to the right and the major filament seen end-on:

2.1 the projection of the major filament shall lie entirely within a rectangle of height "a" and width "b", having its centre at the theoretical position of the centre of the filament;

2.2 the projection of the minor filament shall lie entirely within a rectangle of width "c" and height "d" having its center at a distance "u" above the theoretical position of the centre of the major filament.

3. Front elevation
The filament lamp placed with the cap down and the reference axis vertical, the filament lamp being viewed in a direction at right angles to the axis of the major filament:

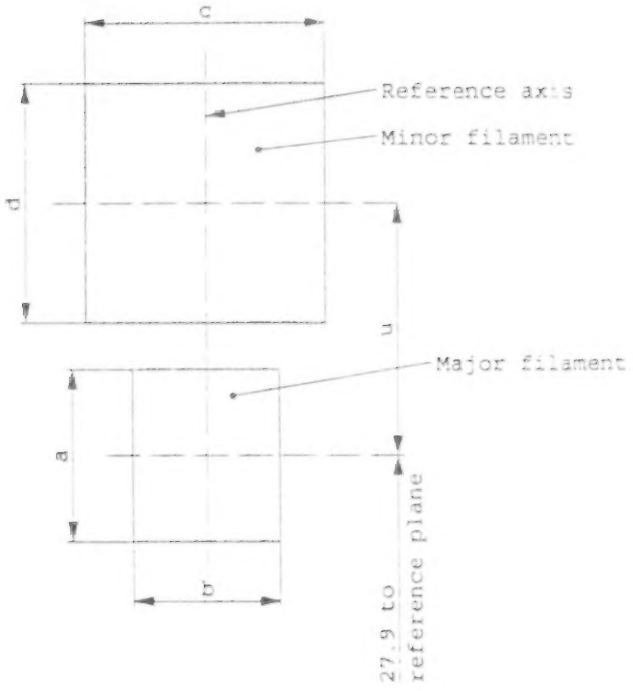
3.1 the projection of the major filament shall lie entirely within a rectangle of height "a" and width "h", centred on the theoretical position of the centre of the filament;

3.2 the centre of the major filament shall not be offset by more than distance "k" from the reference axis;

3.3 the centre of the minor filament shall not be offset from the reference axis by more than ± 2 mm
(±0.4 mm for standard filament lamps).

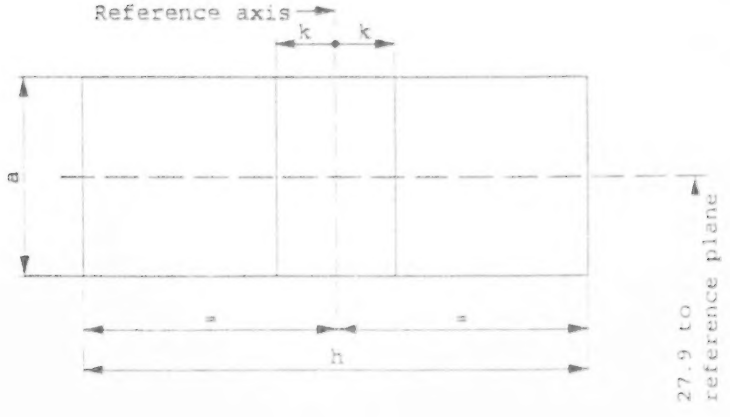
CATEGORY PY27/7W Sheet PY27/7W/3

Side elevation



Reference	a	b	c	d	u
Dimensions	3.5	3.0	4.8		5.1

Front elevation



Reference	a	h	k
Dimensions	3.5	11.9	1.0

"